

June 9, 2003

TO: Internal File

THRU: Stephen J. Demczak, Environmental Scientist III/Engineering, Team Lead

FROM: Priscilla W. Burton, Environmental Scientist III/Soils

RE: Boundary Modification (Abatement to N03-39-1-1), Consolidation Coal Company, Emery Deep Mine, C/015/015-03B

### **SUMMARY**

The site of the 4<sup>th</sup> East Portal development is in Section 27, T. 22 S. R. 6 E. Salt Lake Meridian (MRP, Section IV.A.2 and Plate IV-3). Portal development in the last year included an excavated material pile (128,000 cu yds), airshaft, a crusher, a 10,000 ton processed coal stockpile, a 100-ton rock dustbin, water tank, storage yard, two retention ponds and a sediment pond.

Currently it is estimated that 7,840 cubic yards of topsoil is stored in the topsoil pile and 1,400 cu yds in berms at the 4<sup>th</sup> East Portal site. [The 7,840 cu yd figure is down from the previous survey (10,600 yds, AM02B-1) and down from the original projection of salvage of 12,000 cu yds (AM02B).]

Contamination of the topsoil berm along the east perimeter, adjacent to the coal loadout, as well as the undisturbed soil between the eastern disturbed area boundary and the adjacent county road provoked Notice of Violation 39-1-1 as modified February 20, 2003 with the following remedial actions:

- 1) Take steps to reduce coal fines from leaving the permit area.
- 2) Submit a long-term plan (amendment) to control coal fines from leaving the permit area.
- 3) Not to clean coal fines unless the approved amendment requires the removal of the coal fines.

**TECHNICAL MEMO**

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This application attempts to limit the impact of the coal fine fallout by adding 1.45 acres to the disturbed area and salvaging topsoil within the new boundary. The Permittee has indicated that in the near future an amendment to incorporate additional land to the east into the permit area will be submitted, such that remedial actions numbered 1 and 2 above will be satisfied.

Stripping topsoil within the 1.45-acre additional disturbed area does not remedy the fugitive coal fine dust problem. Expansion outside of the existing disturbed area should be limited to the area required for implementation of fugitive dust control strategies, such as construction of a permanent wind break or coal storage silo. But such technologies have not been proposed and there is not adequate justification for adding the 1.45 acres to the disturbed area at this time.

**TECHNICAL ANALYSIS:**

**GENERAL CONTENTS**

**REPORTING OF TECHNICAL DATA**

Regulatory Reference: 30 CFR 777.13; R645-301-130.

**Analysis:**

The qualifications and ARCPACS certification of the consulting soil scientist are disclosed in Appendix VII-3.

**Findings:**

The information provided meets the minimum requirements for Reporting of Technical Data.

**ENVIRONMENTAL RESOURCE INFORMATION**

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.



**CLIMATOLOGICAL RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.18; R645-301-724.

### **Analysis:**

Climatological information is provided in Chapter X Part B of the MRP. The Permittee has installed a weather station at the main Emery Mine facilities and initial data were anticipated by January 2003 (Chap. X, Part B, page 5). This weather station will collect rainfall, snowfall and record wind speed and direction as well as barometric pressure and temperature.

### **Findings:**

The information provided does not meet the minimum requirements for Climatological Information. Prior to approval, the Permittee must provide the following information, in accordance with:

**R645-301-724**, Include in the N.O.V. Abatement plans the information recorded from the recently installed weather station for wind speed and direction.

## **FILES RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

### **Analysis:**

Appendix VII-3 summarizes the information known about the site from the 1981 survey conducted by James P. Walsh & Associates, Inc. of Boulder Colorado.

Addendum 1 to Appendix VII-3 documents a site survey conducted on May 31, 2003 by Mr. James Nyenhuis, Certified Professional Soil Scientist. This survey revised the original soils map, Plate VII-1, for the 4<sup>th</sup> East Portal Area. The revised map showed less rockland and larger areas covered by Castle Valley soils (now called Hideout Series). The map also included areas of Montwell series soils and Begay series soils.

This submittal provides Appendix VII-4, Letter from Mt. Nebo Consultants – Append 1.45 Ac Area to 4<sup>th</sup> East Portal Area. The Appendix VII-4 describes Mr. Nyenhuis' March 13, 2003 site visit to survey and map the soils eastward to the County Road. The Division noted that the revised soil map contains map unit symbols that do not match the soil series names provided. This error exists in all previous versions of the map (Addendum 1 to Appendix VII-3 and Appendix VII-3) and should be corrected.

The area of boundary extension is dominated by Castle Valley soils. [Castle Valley series has been renamed Hideout by the Natural Resources Conservation Service (NRCS).]

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The following soil series were mapped by Mr. Nyenhuis:

Hideout Soil Series = Loamy, mixed, superactive, calcareous, mesic Lithic Ustic Torriorthents;  
Montwel Soil Series = Fine-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents;  
Begay Soil Series = Coarse-loamy, mixed, superactive, mesic Ustic Haplocambids;  
Persayo Soil Series = Loamy, mixed, calcareous, mesic, shallow Typic Torriorthents;  
Chipeta Soil Series = Clayey, mixed, active, calcareous, mesic, shallow Typic Torriorthents.

**Findings:**

The information provided does not meet the minimum requirements for Environmental Resource Soils. Prior to approval, the Permittee must provide the following, in accordance with:

**R645-301-222.100**, In Appendix VII-3, ensure that the soil map unit symbols match the soil series names provided.

## OPERATION PLAN

### AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR 784.26, 817.95; R645-301-244.

**Analysis:**

The facility will handle a capacity of approximately 1,300,000 tons of coal per year (page 17b, Chapter II). Presently, the coal is brought from the mine through a screening/crusher building to a 10,000 ton processed coal stockpile. **A bypass system has been installed** to prevent fine coal from entering the crusher. **A misting system** wets the coal on the conveyors during transit. **An extendable discharge chute has been installed** (Chapter X-C-page 5a) to contain the fines during free fall onto the pile. **A reclaim belt has been installed** to minimize the use of the front-end loader. The R.O.M. surge pile does not exist due to design constraints on the final configuration of the entries and conveyors (Division communication with Seth McCourt, May 8, 2003).

Chapter X. C contains the Air Quality Approval Order (AO) from the Division of Air Quality dated August 5, 2002.

The AO indicates the following:

- The production limit of 1,300,000 tons/yr should not be exceeded (Item 12).
- The ROM surge pile may contain 1,500 tons maximum (Item 12).
- The maximum time period of operation for the 425 hp diesel generator should be 300 hours of operation /12 mo period (using #2 diesel fuel oil, Item 12).
- Visible emissions from conveyor transfer points should not exceed 10% opacity and emissions from all other sources should not exceed 20% opacity. Observations of opacity are to be made in accordance with 40 CFR 60.11 (b) and 40 CFR 60, Appendix A, Method 9 (Item 10).
- Approved site description according to the April 8, 2002 Notice of Intent (Item 6).

Item 9 of the General Conditions listed in the AO requires that Consolidation Coal Company “notify the Executive Secretary in writing when the installation of the equipment listed under the new portal site has been completed. Mr. McCourt indicated that construction of the site was completed in February of 2003 with the installation of the loadout belt and hopper and that the Executive Secretary had been notified at that time. The initial compliance inspection with Air Quality had not been conducted as of May 8, 2003 (Division communication with Seth McCourt, May 8, 2003).

### **Findings:**

The information provided does not meet the minimum requirements for Air Pollution Control Plan. Prior to approval, the Permittee must provide the following, in accordance with:

**R645-301-422**, Place in the narrative of the application details of communication with the Bureau of Air Quality concerning attempts to provide fugitive dust control and indicate the date of the initial compliance inspection required by the Air Quality Approval Order.

**R645-301-244.100**, The Permittee should provide the Division with opacity readings of the coal stockpile made in accordance with the Air Quality Approval Order prior to and after implementation of the dust control strategies described in the application, so that the Division may evaluate whether the treatment methods described in the application have effectively reduced fugitive dust from the pile.

### **PSOIL AND SUBSOIL**

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

### **Analysis:**

TECHNICAL MEMO

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### Removal and Storage

The topsoil stockpile covers one acre (page VI.B.3-188a). Soil was removed from nine acres (page III-21) and stored as shown on as shown on Plate III-1. The storage pile lies on Persayo/Chipeta complex soils. The topsoil stockpile contains 7,840 cu yds down from the previously reported 10,600 cubic yards (page III-21) and about two-thirds of the projected recovery of 12,000 cu yds.

Chapter II page 17a, notes that approximately 1,400 cu yds of topsoil is also stored in berms on the east and west perimeter of the site. Berms on the south end of the disturbed area are also constructed out of topsoil (personal communication with Tim Kirschbaum, May 23, 2003).

Contamination of the topsoil berm along the east perimeter, adjacent to the coal loadout, as well as the undisturbed soil between the eastern disturbed area boundary and the adjacent county road provoked Notice of Violation 39-1-1 as modified February 20, 2003 with the following remedial actions:

- 1) Take steps to reduce coal fines from leaving the permit area.
- 2) Submit a long-term plan (amendment) to control coal fines from leaving the permit area.
- 3) Not to clean coal fines unless the approved amendment requires the removal of the coal fines.

To abate the NOV, the Permittee proposed moving 200 feet of this berm or to the bermed topsoil stockpile and salvaging six inches of soil from the undisturbed but affected area east of the disturbed boundary fence (Chap IV, page 7a).

During a field visit on May 8, 2003, the Division noted the following:

- Approximately 350 feet of the eastern permit boundary topsoil berm is contaminated with coal fines on the surface.
- Mining debris is scattered on parts of the eastern permit boundary topsoil berm and the western permit boundary topsoil stockpile.
- A portion of the contaminated topsoil from the berm along the eastern boundary had been moved to the western disturbed area berm. See photograph taken on 5/08/2003.

Moving the berm will protect the topsoil from further contamination and should be completed. Eighty- four cubic yards from the topsoil berm along the east perimeter fence was moved on April 5, 2003. This portion of the topsoil berm was replaced with straw bales on April 10, 2003 (personal communication with Seth McCourt on May 27, 2003). On May 8, 2003, the Division noted that there was still topsoil remaining underneath the straw bales. The Division also noted that at least 350 feet of the berm had coal fines coming from the stockpile. The Permittee should remember that although the topsoil berm has the dimensions of 2.5'high X 3'wide, it sits on topsoil that also must be salvaged.

All remaining topsoil berms (south, east and west) must be labeled with a sign indicating that they are topsoil.

Chapter IV describes the procedure the mine will follow to salvage the affected topsoil berm and the undisturbed soil (1.45 acres) to the topsoil stockpile (pg. 7a). The Permittee plans to:

- Reconfigure the southern perimeter berm of the topsoil stockpile by pushing this berm into the existing stockpile.
- Vacuum coal fines from the topsoil berm located along the eastern permit boundary.
- Relocate the topsoil berm located along the eastern permit boundary to the site previously occupied by the western perimeter berm of the topsoil stockpile.
- Salvage six inches of topsoil from the 1.45 acre affected area and place this topsoil in a berm along the southern edge of the topsoil pile.
- Pock the reconfigured and relocated berms.
- Seed the reconfigured and relocated berms with the "warm season" seed mix.
- Replace the site previously occupied by topsoil berm located along the eastern permit boundary with straw bales stacked end to end.

Addendum 1 to Appendix VII-3 Biological & Soil Resources at the 4<sup>th</sup> East Portal Area recommends salvage of the soils down to sandstone contact. Depth to sandstone is estimated at 12 inches for the Castle Valley (Hideout) Series soil, which is the predominant soil type in the 1.45-acre addition. The Persayo/Chipeta complex makes up the most affected area of the 1.45 acres. The Division noted that three inches of coal fines has accumulated on this soil after the vacuuming in March. Estimated depth to sandstone for Persayo is 18 inches and for Chipeta is six inches. Therefore, an average depth of salvage for the 1.45 acre area would be 12 inches which could amount to 2,330 cu yds of soil stockpiled from the additional disturbed area.

The Division's imperative is to promote coal mining in an environmental responsible manner. Removing the topsoil from the additional 1.45-acre disturbed area will not solve the problem of fugitive dust emissions from the coal stockpile. Therefore, the Division requests that the Permittee evaluate other options for reducing fugitive coal fine particles outside the permit area.

TECHNICAL MEMO

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**Findings:**

The information provided does not meet the minimum requirements for Operations Topsoil Subsoil. Prior to approval, the Permittee must provide the following, in accordance with:

**R645-301-121.200**, The application should clearly indicate in Chapter II page 17a, that berms on the east, west and south perimeter of the site are formed of topsoil.

**R645-301-234.220**, (1) The Permittee must remove at least 350 feet of the east perimeter topsoil berm (2.5' high X 3' wide) along with the topsoil beneath the berm, because coal fines are accumulating on the berm to this distance (movement of the entire berm may be preferable). (2) All remaining topsoil berms on the south, east and west must be labeled with a sign indicating that they are topsoil.

**R645-301-331**, The applicant should attempt to limit coal fine transport off the existing permit area without resorting to adding disturbed area to the permit, unless such disturbed area is required for construction of dust control strategies.

**RECOMMENDATIONS:**

There has been a debate within the Division concerning the salvage of topsoil from the 1.45-acre additional area. Removal of topsoil from this area would enable the Permittee to utilize the area to construct a permanent windbreak or silo to contain the coal fines within the disturbed area, but such technologies have not been proposed. The application for additional disturbed area is not warranted.